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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/022,628 | 12/17/2001 | Terry J. Hrabik | PB 00 0053 | 1225 |
| 45149 | 7590 | 03/09/2006 | EXAMINER | |
| TELLABS OPERATIONS, INC. LEGAL DEPARTMENT 1415 WEST DIEHL ROAD NAPERVILLE, IL 60563 | | | HAILE, FEBEN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2663 | |

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

35/

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/022,628 | | HRABIK ET AL. | |
| | Examiner | | Art Unit | |
| | Feben M. Haile | | 2663 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 21 is/are rejected.
- 7) ☒ Claim(s) 4-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 17, 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/6/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because they are illegible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liebetreu et al. (US 6,128, 282), hereinafter referred to as Liebetreu, in view of Kamiya (US 6,885,639), hereinafter referred to as Kamiya.

Regarding claims 1 and 21, Liebetreu discloses means for assigning a first number of slots in a frame to a first flow and a second number of slots in the frame to a second flow (**figure 4 and column 5 lines 57-62; a frame is divided into a plurality of time slots which are further partitioned into a constant data rate component and a data packet**); and means for assigning first slot positions to the first number of slots in the frame and second slot positions to the second number of slots in the frame (**figure 4 and column 7 lines 17-20; slot assignments are used for arranging the time slots**).

Liebetreu fails to teach means for assigning using a binary distribution tree.

Kamiya discloses a scheduler constructed of a plurality of modules for performing distributed type scheduling (**figure 12 and column 2 lines 31-33**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the plurality of modules taught by Kamiya into the assigning means disclosed by Liebetreu because they are analogous art. The motivation for such a modification being distributed scheduling can regulate the rate at which the data is forwarded through the node controller.

Regarding claim 2, Liebetreu discloses wherein the first flow and the second flow are flows of discrete packets (**column 2 lines 7-10; data is transmitted using discrete blocks or packets**).

Regarding claim 3, Liebetreu discloses wherein the binary distribution tree generates a binary permission vector (BPV) for each of the first and second flows (**column 7 lines 33-39; in accordance with slot assignments, address assignments are allocated for specific time slots and are used for transferring data**).

Allowable Subject Matter

3. Claims 4-14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 15-20 are allowed. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 15-20, the prior art of record fails to disclose, teach, or fairly suggest "a method for generating binary permission vectors, comprising: ...dividing allocation numbers associated with a first flow by two at the bifurcation points; ...assigning a remainder from the dividing of the allocation numbers associated with the first flow to a branch that corresponds to a drift direction at the bifurcation point where the remainder exists...".

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a) Chiang et al. (US 6,895,015), Dynamic Time Slot Allocation in Internal Rules Checker Scheduler

b) Jones et al. (US 2004/0160978), Arbitration Mechanism for Packet Transmission

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ff 0310312006



RICKY Q. NGO
SUPERVISORY PATENT EXAMINER